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EXAMINER	
GE, YUZHEN	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/726,253	PATTON ET AL.	
	Examiner	Art Unit	
	Yuzhen Ge	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36 and 42-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36 and 42-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 September 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Examiner's Remark

Applicant's amendment, filed on Sept. 5, 2007, has been received and entered into the file. Claims 37-41 are cancelled. Claims 1, 16, 27, 33 and 42 have been amended. Claims 1-36 and 42-44 are pending. The replacement drawings have been accepted.

Regarding applicant's argument that "Sasaki is for correcting for an error in a decoder that may be caused by the encoding process and since this is error correction, it is by definition impossible to know in advance where the error is and what the error will be", the examiner disagrees. First of all, the claim invention is also for correcting errors, mainly errors that may occur when reproducing for example, flesh tones. Similar to the claimed invention, Sasaki et al first find where the error is and what the error it is and then specifying it and correcting it (col. 53, line 60- col. 56, line 34). For example, "the subject" is one way of specifying where the error is and what the error correction is (col. 54, lines 27-31, col. 56, lines 1-9). The use of the open-ended transitional phrase "comprising" in the independent claims, does not preclude the additional elements taught by the prior art.

Regarding applicant's argument that the metadata of claim 1 directly specifies the region of interest and the metadata of Sasaki does not directly identify the region but, at best, indirectly locates through a three-step process the region of interest, the examiner disagrees again. The subject mode of Sasaki et al clearly identifies and specifies a region of interest (col. 54, lines 27-31, col. 56, lines 1-9, col. 2, lines 49-65, col. 9, lines 46-53, Fig. 19). Sasaki et al also teach to extract an area of an object existing in a scene (col. 4, lines 9-52). If the area/region were not specified, the extraction would not be possible.

Regarding applicant's argument that Rai does not disclose any metadata that specifies a region of interest and a corresponding colorimetric transformation for that region, the examiner disagrees. Rai et al teach this limitation (col. 5, line 10-20).

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitation "to the exhibition system" in (b). There is insufficient antecedent basis for this limitation in the claim. The examiner will interpret the phrase as "to an exhibition system".

Claim Rejections - 35 USC § 103

2. Claims 1-36 and 42-44 rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (US Patent 5,959,672) in view of Rai et al (US Patent 6,337,692).

Regarding claim 1 (interpreted), Sasaki teaches a method for modifying at least one colorimetric attribute of a predetermined region of a motion picture frame comprising:

(a) creating metadata that specifies a predetermined region of the frame and specifies at least one predetermined colorimetric transformation for application to the predetermined region of the frame (col. 54, lines 27-31, col. 56, lines 1-9. col. 54, lines 27-31, col. 56, lines 1-9, col. 2, lines 49-65, col. 9, lines 46-53, Fig. 19, the transformation is determined first before applied and this is regarded as predetermined);

(b) providing metadata associated with the motion picture frame, said metadata defining the predetermined region of the frame to a decoder (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61, Fig. 19); and

(c) applying a predetermined calorimetric transform to pixels within the predetermined region, modifying the at least one colorimetric attribute thereby (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61).

However they do not explicitly teach the metadata specifying at least one predetermined colorimetric transformation for application to the predetermined region of the frame and providing the metadata to an exhibition system. Sasaki et al teach identifying region such as face and skin and perform color correction accordingly (col. 56, lines 1-9). The color transform is specified indirectly through region information (col. 55, line 56-col. 56, line 9). In the same field of endeavor, Rai et al teach metadata specifying at least one predetermined colorimetric transformation for application to the predetermined region of the frame (col. 5, lines 10-28, the color correction parameter received is regarded as the meta data specifying the color transformation, Figs. 8 and 12) and providing image metadata to an exhibition system (Fig. 1, the system that displays the results of color correction is an exhibition system). Using predetermined color transform such as LUT is efficient. Color transform using predetermined LUT is well known in the art. It is desirable to perform automatic color correction at a system that the image is to be displayed and be efficient in color processing (col. 1, lines 19-35 and col. 4, lines 36-46 of Rai et al). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to provide image metadata specifying at least one predetermined colorimetric transformation for application to the predetermined region of the frame to an

exhibition system so that color correction can be performed efficiently before displaying the image.

Regarding claim 2, Sasaki and Rai et al teach a method for modifying at least one calorimetric attribute according to claim 1. Sasaki further teaches wherein said predetermined region comprises an area having a flesh tone (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61).

Regarding claim 3, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claim 1. Sasaki further teaches wherein said predetermined region comprises an area having a hair color (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61).

Regarding claim 4, Sasaki and Rai et al teach a method for modifying at least one calorimetric attribute according to claim 1. Sasaki further teaches wherein said predetermined region comprises an area having an eye color (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61).

Regarding claim 5, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claim 1. Sasaki further teaches wherein the step of providing metadata comprises the step of providing coordinates within the motion picture frame (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61).

Regarding claims 6 and 10, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claims 1, and 16. Rai et al further teach step of applying a calorimetric transform comprises the step of applying a look-up table and the look-up table is specified as metadata (Figs. 8 and 12).

Regarding claim 7, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claim 1. Sasaki further teaches the method comprising the step of displaying the motion picture frame having said modified at least one colorimetric attribute (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61, inherent from H.261 that once the video signal is decoded and corrected, it will be displayed, Fig. 55). Rai et al further teach the method comprising the step of displaying the motion picture frame having said modified at least one colorimetric attribute (Fig. 1, col. 10, lines 45-56).

Regarding claim 8, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claim 7. Sasaki further teaches wherein the step (b) of applying the colorimetric transform is done during the step of displaying (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61, the step of decoding can be regarded as part of the step of displaying, Fig. 55).

Regarding claim 9, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claim 1. Sasaki further teaches wherein the step of applying a

colorimetric transform comprises the step of conforming within predetermined limits for flesh tones, said predetermined limits specified in said metadata (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 10, 16, 56, and 61, the template is regarded as the predetermined limits).

Regarding claim 11, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claim 1. Sasaki further teaches the method comprising the step of storing the motion picture frame that was modified by applying the colorimetric transform to pixels thereof (col. 17, lines 1-12, col. 18, lines 20-31, col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, col. 17, lines 1-12, inherent from H.261 that the motion picture frame is stored in the decoder).

Regarding claim 12, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claim 11. Sasaki further teaches wherein the step of storing is performed at a motion picture exhibition site (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61, the decoding site is regarded as the motion picture exhibition site, it is inherent that decoded picture is stored either in memory or buffer in order to be displayed, col. 9, lines 35-45, Fig. 55).

Regarding claim 13, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claim 1. Sasaki further teaches wherein the motion picture frame is one of a set of consecutively displayed motion picture frames and the modification generated in step

(b) is obtained by applying the calorimetric transform to pixels within the set of frames (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 55-56, and 61).

Regarding claim 14, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claim 13. Rai et al further teach wherein objects persist from one frame to the next and the modification generated in step (b) is applied consistently across the frames to the same objects (abstract, col. 7, lines 53-67, col. 8, line 1-col. 9, line 8). It is desirable to perform color correction efficiently. Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to use the method of Rai et al to apply consistently across frames to the same objects so that color correction is performed efficiently.

Regarding claim 15, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claim 1. Sasaki further teaches wherein the colorimetric transform is applied to pixels within the whole motion picture frame (col. 51, lines 35-45, col. 53, lines 24-36, col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61, color correction is applied to pixels within the whole picture).

Regarding claim 16, Sasaki teaches a method for modifying an original flesh tone in a set of consecutively displayed digital motion picture frames to provide a modified flesh tone, the method comprising, for each frame in the set:

(a) obtaining image data for the frame (Figs. 1-11);

(b) identifying at least one area in the frame having the original flesh tone and identifying at least one colorimetric transformation for application to the at least one area (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 55-56, and 61, Fig. 19);

(c) applying a calorimetric transform to said at least one area to modify the original flesh tone over said at least one area and obtain the modified flesh tone (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 55-56, and 61); and

(d) incorporating image data for the modified flesh tone into the frame, forming a modified frame thereby (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 55-56, and 61).

However they do not explicitly teach identifying at least one predetermined colorimetric transformation for application to the at least one area. Sasaki et al teach identifying region such as face and skin and perform color correction accordingly (col. 56, lines 1-9). The color transform is specified indirectly through region information (col. 55, line 56-col. 56, line 9). In the same field of endeavor, Rai et al teach identifying at least one predetermined colorimetric transformation for application to the at least one area (col. 5, lines 10-28, the color correction parameter received is regarded as the metadata specifying the color transformation, Figs. 8 and 12). Using predetermined color transform such as LUT is efficient. Color transform using predetermined LUT is well known in the art. It is desirable to perform automatic color correction at a system and be efficient in color processing (col. 1, lines 19-35 and col. 4, lines 36-46 of Rai et al). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to identify at least one predetermined colorimetric transformation for

application to the predetermined region of the frame so that color correction can be performed efficiently.

Regarding claim 17, Sasaki and Rai et al teach a method for modifying an original flesh tone according to claim 16. Sasaki further teaches the method comprising the step of displaying said modified frame (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61, inherent from H.261 that once the video signal is decoded and corrected, it will be displayed, Fig. 55). Rai et al further teach the method comprising the step of displaying the motion picture frame having said modified at least one colorimetric attribute (Fig. 1, col. 10, lines 45-56).

Regarding claim 18, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claim 16. However he does not explicitly teach the step of applying a calorimetric transform comprises the step of applying a look-up table and the look-up table is specified as metadata. In the same field of endeavor Rai et al teach step of applying a calorimetric transform comprises the step of applying a look-up table and the look-up table is specified as metadata (Figs. 8 and 12). It is desirable to efficiently perform color correction. Color correction by look-up-table is well known in the art and it is known to be efficient compared with given a function and evaluating a function each time a correction is performed and also in some cases, analytical expression for the correction may not be known. Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to applying a

calorimetric transform comprises the step of applying a look-up table that is specified in a metadata so the transform is done efficiently.

Regarding claim 19, Sasaki and Rai et al teach a method for modifying an original flesh tone according to claim 16. Sasaki further teaches wherein the step of identifying each area in the frame having the original flesh tone comprises the step of forming a bit-mapped mask for at least one said area (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61,the binary templates is the bit-mapped mask).

Regarding claim 20, Sasaki and Rai et al teach a method for modifying an original flesh tone according to claim 16. Sasaki further teaches wherein the step of identifying each area in the frame having the original flesh tone comprises the step of providing a set of positional coordinates for at least one said area (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61).

Regarding claim 21, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute according to claim 16. However he does not explicitly teach wherein objects persist from one frame to the next and the modification generated in step (b) is applied consistently across the frames to the same objects. In the same field of endeavor, Rai et al teach wherein objects persist from one frame to the next and the modification generated in step (b) is applied consistently across the frames to the same objects (abstract, col. 7, lines 53-67, col. 8, line 1-col. 9, line 8). It is desirable to efficiently perform color correction (col. 2, lines 1-24, col. 4, lines

36-46 of Rai et al). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to apply modification consistently across the frames to the same objects wherein objects persist from one frame to the next.

Regarding claim 22, Sasaki and Rai et al teach a method for modifying an original flesh tone according to claim 16. Sasaki further teaches wherein the step of identifying each area in the frame having the original flesh tone comprises the step of applying a skin tone recognition algorithm to said image data (col. 4, lines 1-4, col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61).

Regarding claim 23, Sasaki and Rai et al teach a method for modifying an original flesh tone according to claim 16. Sasaki further teaches the method comprising the step of storing said modified frame (col. 17, lines 1-12, col. 18, lines 20-31, col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, col. 17, lines 1-12, inherent from H.261 that the motion picture frame is stored in the decoder).

Regarding claim 24, Sasaki and Rai et al teach a method for modifying an original flesh tone according to claim 23. Sasaki further teaches the method comprising the step of storing said modified frame at a motion picture exhibition site (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61, the decoding site is regarded as the motion picture exhibition site).

Regarding claim 25, Sasaki and Rai et al teach a method for modifying an original flesh tone according to claim 16. Sasaki further teaches the method comprising the step of transmitting said modified frame to an exhibition site (col. 1, lines 17-33, col. 2, lines 6-19, Figs. 1-11, 16, 56, and 61, the decoding site with display is regarded as the motion picture exhibition site).

Regarding claim 26, Sasaki and Rai et al teach a method for modifying an original flesh tone according to claim 16. Sasaki further teaches wherein the step of identifying said at least one area in the frame having the original flesh tone comprises the step of applying at least one of a skin tone algorithm or a facial recognition algorithm to said image data (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61)

Regarding claim 27, Sasaki teaches a method for modifying at least one colorimetric attribute of a predetermined region of a motion picture frame comprising:

(a) preparing a master motion picture frame having said predetermined region (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61, the motion picture frame is regarded as a master motion picture frame);

(b) generating metadata identifying said predetermined region and identifying at least one colorimetric transformation for application to the predetermined region (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61, the transformation is determined first before applied and this is regarded as predetermined);

(c) transmitting said master motion picture frame and said metadata to a decoder (col. 1, lines 17-33, col. 2, lines 6-19, col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61); and

(d) applying a colorimetric transform at the exhibition site to pixels of said master motion picture frame within said predetermined region, thereby modifying the at least one colorimetric attribute (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61).

However they do not explicitly teach the metadata identifying at least one predetermined colorimetric transformation for application to the predetermined region of the frame and transmit the metadata to an exhibition system.[9] Sasaki et al teach identifying region such as face and skin and perform color correction accordingly (col. 56, lines 1-9). The color transform is specified indirectly through region information (col. 55, line 56-col. 56, line 9). In the same field of endeavor, Rai et al teach metadata identifying at least one predetermined colorimetric transformation for application to the predetermined region of the frame (col. 5, lines 10-28, the color correction parameter received is regarded as the metadata specifying the color transformation, Figs. 8 and 12) and transmitting image metadata to an exhibition site (Fig. 1, the system that displays the results of color correction is an exhibition site). Using predetermined color transform such as LUT is efficient. Color transform using predetermined LUT is well known in the art. It is desirable to perform automatic color correction at a system that the image is to be displayed and be efficient in color processing (col. 1, lines 19-35 and col. 4, lines 36-46 of Rai et al). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to provide image metadata identifying at least one predetermined colorimetric

transformation for application to the predetermined region of the frame to an exhibition site so that color correction can be performed efficiently before displaying the image.

Regarding claim 28, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute of a predetermined region of a motion picture frame according to claim 27. Sasaki further teaches the method comprising the step of displaying a modified master motion picture frame (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61, inherent from H.261 that once the video signal is decoded and corrected, it will be displayed, Fig. 55). Rai et al further teach the method comprising the step of displaying the motion picture frame having said modified at least one colorimetric attribute (Fig. 1, col. 10, lines 45-56).

Regarding claim 29, Sasaki and Rai et al teach a method for modifying at least one calorimetric attribute of a predetermined region of a motion picture frame according to claim 27. Sasaki further teaches wherein the step of preparing a master motion picture frame having metadata comprises the steps of

(a) identify said predetermined region by processing a master motion picture frame and generating said metadata identifying said predetermined region (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61); and

(b) associating said metadata with said master motion picture frame (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61).

Regarding claim 30, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute of a predetermined region of a motion picture frame according to claim 29. Sasaki further teaches wherein the step of processing said master motion picture frame comprises the step of applying a recognition algorithm to said pixels of said master motion picture frame (abstract, col. 1, lines 10-15, col. 2, lines 6-10, col. 6, lines 36-40, col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61).

Regarding claim 31, Sasaki and Rai et al teach a method for modifying at least one colorimetric attribute of a predetermined region of a motion picture frame according to claim 27. However he does not teach wherein the step of applying a colorimetric transform requires an operator selection from a plurality of available calorimetric transforms. In the same field of endeavor, Rai et al teach a step of applying a colorimetric transform requires an operator selection from a plurality of available calorimetric transforms (Figs. 2, and 12, col. 3, lines 38-50, col. 5, lines 2-9, col. 8, lines 17-36, col. 8, lines 58-64). It is desirable to implement color correction without imparting color artifacts into video images to perform color correction according to user's requirement (col. 1, lines 20-35). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to apply a colorimetric transform requires an operator selection from a plurality of available calorimetric transforms so that the color transform is performed according to user's requirement without imparting color artifacts into the video images.

Regarding claim 32, Sasaki and Rai et al teach a method for modifying at least one calorimetric attribute of a predetermined region of a motion picture frame according to claim 27. Sasaki further teaches the method comprising the step of storing the motion picture frame that was modified at the exhibition site (col. 17, lines 1-12, col. 18, lines 20-31, col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, col. 17, lines 1-12, inherent from H.261 that the motion picture frame is stored in the decoder).

Regarding claim 33, Sasaki teaches a method for modifying an original flesh tone in a set of consecutively displayed digital motion picture frames to provide a modified flesh tone, the method comprising:

(a) processing said set of consecutively displayed digital motion picture frames to generate metadata identifying areas having the original flesh tone and identifying at least one colorimetric transformation for application to the areas having the original flesh tone (col. 18, lines 20-31, col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, col. 17, lines 1-12, Fig. 55, the transformation is determined first before applied and this is regarded as predetermined);

(b) transmitting, to an exhibition site, a master motion picture comprising said set of consecutively displayed digital motion picture frames and said metadata (col. 1, lines 17-33, col. 2, lines 6-19, col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 55-56, and 61, the decoding site is regarded as the motion picture exhibition site);

(c) Receiving said master motion picture and said metadata at said exhibition site (col. 1, lines 17-33, col. 2, lines 6-19, col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines

1-22, Figs. 1-11, 16, 55-56, and 61, the decoder receives the master motion picture and said metadata); and

(d) applying a colorimetric transform to said set of consecutively displayed digital motion picture frames, according to said metadata, to modify said areas having the original flesh tone, forming a modified set of consecutively displayed digital motion picture frames thereby (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 55-56, and 61).

However they do not explicitly teach the metadata identifying at least one predetermined colorimetric transformation for application to the predetermined region of the frame and transmit the metadata to an exhibition system. Sasaki et al teach identifying region such as face and skin and perform color correction accordingly (col. 56, lines 1-9). The color transform is specified indirectly through region information (col. 55, line 56-col. 56, line 9). In the same field of endeavor, Rai et al teach metadata identifying at least one predetermined colorimetric transformation for application to the predetermined region of the frame (col. 5, lines 10-28, the color correction parameter received is regarded as the metadata specifying the color transformation, Figs. 8 and 12) and transmitting image metadata to an exhibition site (Fig. 1, the system that displays the results of color correction is an exhibition site). Using predetermined color transform such as LUT is efficient. Color transform using predetermined LUT is well known in the art. It is desirable to perform automatic color correction at a system that the image is to be displayed and be efficient in color processing (col. 1, lines 19-35 and col. 4, lines 36-46 of Rai et al). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to provide image metadata identifying at least one predetermined colorimetric

transformation for application to the predetermined region of the frame to an exhibition site so that color correction can be performed efficiently before displaying the image.

Regarding claim 34, Sasaki and Rai et al teach a method for modifying an original flesh tone in a set of consecutively displayed digital motion picture frames according to claim 33. Sasaki further teaches the method comprising the step of storing said modified set of consecutively displayed digital motion picture frames (col. 17, lines 1-12, col. 18, lines 20-31, col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, col. 17, lines 1-12, inherent from H.261 that the motion picture frame is stored in the decoder, Fig. 55).

Regarding claim 35, Sasaki and Rai et al teach a method for modifying an original flesh tone in a set of consecutively displayed digital motion picture frames according to claim 33. Sasaki further teaches the method comprising the step of substituting said set of consecutively displayed digital motion picture frames into said master motion picture to form a modified motion picture (col. 17, lines 1-12, col. 18, lines 20-31, col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, col. 17, lines 1-12, inherent from H.261 that the motion picture frame is stored in the decoder, Fig. 55).

Regarding claim 36, Sasaki and Rai et al teach a method for modifying an original flesh tone in a set of consecutively displayed digital motion picture frames according to claim 33. Sasaki further teaches wherein the step of applying said colorimetric transform is performed during display of said modified motion picture (col. 54, lines 27-31, col. 55, lines 5-26, lines 27-44,

col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61, Fig. 55). Rai et al further teach wherein the step of applying said colorimetric transform is performed during display of said modified motion picture (Fig. 1, col. 10, lines 45-56).

Regarding claim 42, Sasaki teaches a method for modifying at least one attribute of an object confined to a predetermined region of a motion picture frame, said method comprising:

(a) providing metadata associated with the motion picture frame, said metadata defining the predetermined region containing the object and defining at least one colorimetric transformation for application to the predetermined region (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61); and

b) applying a transform to pixels within the predetermined region, thereby modifying the at least one attribute of the object whereby the object is treated differently relative to other objects in the frame (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61).

However they do not explicitly teach the metadata defining at least one predetermined colorimetric transformation for application to the predetermined region of the frame. Sasaki et al teach identifying region such as face and skin and perform color correction accordingly (col. 56, lines 1-9). The color transform is specified indirectly through region information (col. 55, line 56-col. 56, line 9). In the same field of endeavor, Rai et al teach metadata identifying at least one predetermined colorimetric transformation for application to the predetermined region of the frame (col. 5, lines 10-28, the color correction parameter received is regarded as the metadata specifying the color transformation, Figs. 8 and 12). Using predetermined color

transform such as LUT is efficient. Color transform using predetermined LUT is well known in the art. It is desirable to perform automatic color correction efficiently (col. 1, lines 19-35 and col. 4, lines 36-46 of Rai et al). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to provide image metadata defining at least one predetermined colorimetric transformation for application to the predetermined region of the frame so that color correction can be performed efficiently.

Regarding claim 43, Sasaki and Rai et al teach a method for modifying at least one attribute of an object as claimed in claim 42. Rai et al further teach wherein the transform modifies the sharpness of the object (col. 4, line 60-col. 5, line 9).

Regarding claim 44, Sasaki and Rai et al teach a method for modifying at least one attribute of an object as claimed in claim 42. Sasaki further teaches wherein the object is a face (col. 54, lines 27-31, col. 55, lines 5-20, lines 27-44, col. 56, lines 1-22, Figs. 1-11, 16, 56, and 61).

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuzhen Ge whose telephone number is 571-272 7636. The examiner can normally be reached on 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Yuzhen Ge
Examiner
Art Unit 2624

WENPENG CHEN
PRIMARY EXAMINER

9/26/07